CLAIM AMENDMENTS

1. (Original) A method for leach extraction of mineral bearing ores and concentrates including the step of leaching said mineral with an aqueous stream containing ferric ions and sulphuric acid in the presence of oxygen, at least part of said aqueous stream comprising a solution formed by reaction of basic ferric sulphate with excess sulphuric acid.

2. (Original) A method according to claim 1, wherein said basic ferric sulphate is produced as a by-product of minerals processing.

3. (Original) A method according to claim 1, wherein said basic ferric sulphate is produced by autoclave oxidation of iron-bearing pyrite mineral slurry at elevated temperatures and under superatmospheric-pressure oxygen.

4. (Original) A method according to claim 3, wherein said elevated temperature is above 150 ^{o}C.

5. (Original) A method according to claim 3, wherein said superatmospheric-pressure oxygen is provided by an atmosphere having oxygen overpressure in excess of 4 bar.

6. (Currently Amended) A method according to ~~any one of claims 3 to 5~~claim 3, wherein said iron-bearing pyrite mineral is selected from native pyrite ore and a by-product of mixed-ore processing.

7. (Original) A method according to claim 6, wherein said by-product of mixed-ore processing is obtained from the solids residue of processing copper/iron/sulphur bearing ores.

8. (Original) A method according to claim 7, wherein said iron-bearing pyrites mineral forms a part of the solids separated from an atmospheric ferric/acid leach of aqueous slurries of chalcocite ores.

9. (Original) A method according to claim 8, wherein said separated solids are concentrated by flotation to produce a pyrites concentrate and tailings stream.

10. (Previously Presented) A method according to claim 1, wherein said basic ferric sulphate leaching step includes the addition of acidified water to solid basic ferric sulphate and aging the slurry for a time and at a temperature sufficient for the supernatant to charge with ferric ions.

11 (Previously Presented) A method according to claim 3, wherein said basic ferric sulphate leaching step includes the releaching of the basic ferric sulphate slurry from the autoclave of its production, wherein the temperature of the slurry is reduced to a temperature that favors the releaching of the basic ferric sulphate to form a supernatant of strong ferric and acid content.

12. (Original) A method according to claim 11, wherein said basic ferric sulphate autoclave slurries are cooled to at least below 100 ^{o}C to 120 ^{o}C depending on chemical environment for releaching.

13. (Previously Presented) A method according to claim 1, wherein a primary ore stream is subjected to pressure oxidative autoclaving to produce a first winnable raffinate and a solids slurry containing said basic ferric sulphate that is admitted to said aqueous stream.

14. (Original) A method for leach extraction of relatively low pyrites-containing chalcocite ores including the steps of: (a) atmospheric leaching of said ore with a contactor solution including ferric ion and sulphuric acid to form an aqueous slurry of the pyrites-containing solids;

(b) passing the pregnant leach solution of step (a) to copper winning; (c) autoclaving said aqueous slurry of the pyrites-containing solids from step (a) in the presence of oxygen at a temperature and a time to produce basic ferric sulphate precipitate as a component of the autoclave discharge solids; (d) reacting said basic ferric sulphate within the autoclave discharge solids with aqueous sulphuric acid to form a solution containing ferric ion and sulphuric acid; and (e) recycling said solution to step
(a).

15. (Original) A method according to claim 14, wherein the precipitation of basic ferric sulphate at high temperature in step (c) is redissolved in step (d) by lowering the temperature of the autoclave discharge slurry.

16. (Original) A method according to claim 15, wherein the lowering of the temperature is by means selected from (1) pumping the acidified basic ferric sulphate slurry directly to the atmospheric leach step, where mixing with the incoming ore slurry reduces the temperature to permit redissolution by the acid produced by autoclaving, and (2) filtering off the basic ferric sulphate precipitate ahead of redissolution with aqueous acid to form an acid ferric sulphate solution for leaching in step (a).

17. (Currently Amended) A method according ~~to any one of claims 14 to 16~~claim 14, wherein said aqueous slurry of the pyrites-containing solids from step (a) is passed directly to autoclaving if the pyrite content is sufficiently high.

18. (Currently Amended) A method according ~~to any one of claims 14 to 16~~claim 14, wherein said aqueous slurry of the pyrites-containing solids from step (a) has its pyrite content enhanced by concentration before passing to autoclaving step (c).

19. (New) A method according to claim 4, wherein said iron-bearing pyrite mineral is selected from native pyrite ore and a by-product of mixed-ore processing.

20. (New) A method according to claim 5, wherein said iron-bearing pyrite mineral is selected from native pyrite ore and a by-product of mixed-ore processing.

21. (New) A method according to claim 15, wherein said aqueous slurry of the pyrites-containing solids from step (a) is passed directly to autoclaving if the pyrite content is sufficiently high.

22. (New) A method according claim 16, wherein said aqueous slurry of the pyrites-containing solids from step (a) is passed directly to autoclaving if the pyrite content is sufficiently high.

23. (New) A method according to claim 15, wherein said aqueous slurry of the pyrites-containing solids from step (a) has its pyrite content enhanced by concentration before passing to autoclaving step (c).

24. (New) A method according to claim 16, wherein said aqueous slurry of the pyrites-containing solids from step (a) has its pyrite content enhanced by concentration before passing to autoclaving step (c).